



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,573	08/24/2001	Reinhold Kroeger	Q65540	8857

7590 04/20/2007
Sughrue
SUGHRUE MION ZINN
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

CHANG, RICHARD

ART UNIT	PAPER NUMBER
----------	--------------

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

58

Office Action Summary	Application No. 09/935,573	Applicant(s) KROEGER ET AL.	
	Examiner Richard Chang	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 and 16-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/24/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment and Argument

1. Applicant's arguments and amendments with respect to claims 8-14 and 16-17, filed on 01/18/2007, have been fully considered but are moot in view of the new ground(s) of rejection.

Claims 1-7 and 15 had been canceled.

Claims 16-17 are newly added.

-- In response to applicant's argument that the cited reference Huang et al. (US patent No. 6,041,358) fails to disclose or suggest the central entity assigning a pair out of the freely defined number of CAN object identifiers to each pair of communicating nodes between which Ethernet frames will be transmitted as amended in claim 8 (See Applicant ' Amendment, pages 7, last paragraph), Huang et al. clearly teaches that transmitting Ethernet type frames over a serial bus CSMA/CD network structure similar to Controller Area Network (CAN) and determining a transmission protocol from a header of the Ethernet like frames using an identifier operable to determine a transmission protocol from a header portion of said Ethernet frames (See Col. 2, line 65 to Col. 3, line 14) by assigning an object identifiers as pair of LES nodes of Virtual Channel identifier to a pair of nodes for facilitating communication between the nodes using the Ethernet frames (See Col. 2, lines 3-31) and Huang et al. further discloses that the LES node pairs of each VLAN may be organized into a hypercube over tree structure, thus in a broad and reasonable interpretation the assigning of pair can be out

Art Unit: 2616

of the freely defined number of tree element (See Col. 7, lines 32-45) and covering the abstract subject matter of "assigning a pair out of the freely defined number of CAN object identifiers to each pair of communicating nodes between which Ethernet frames will be transmitted" in claim 8.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,041,358 ("Huang et al.") in view of the published paper "Hard real-time connectivity: It's in the CAN" COMPUTER DESIGN, XP002147233, January 1997 ("Boyes").

Regarding Claims 8, Huang et al. teach a method and system for a plurality of nodes operable to communicate with each other by maintaining virtual local area networks (VLAN, also transmitting Ethernet type frames over a serial bus CSMA/CD network structure similar to Controller Area Network) wherein the node transmitting control messages to one or more nodes (See Col. 5, lines 40-59), comprising of determining a transmission protocol from a header of the Ethernet like frames (an identifier operable to determine a transmission protocol from a header portion of said Ethernet frames) (See Col. 2, line 65 to Col. 3, line 14), and

assigning a object identifiers (as pair of nodes of Virtual Channel identifier) to a pair of nodes for facilitating communication between the nodes (by a server LES) using the Ethernet frames (See Col. 2, lines 3-31), and

managing a finite number of the object identifiers (said server further operable to manage a finite number of object identifiers VCI in a membership tracking databases) (See Col. 5, line 61 to Col. 6, line 13), wherein the transmission protocol is a Virtual LAN protocol (which is similar but not a standard Ethernet protocol, just like CAN (See Col. 5, lines 40-44) and the finite number is freely definable as number in the membership tracking databases (See Col. 5, line 61 to Col. 6, line 12).

Huang et al. teaches substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

“the transmission protocol conforms to the CAN (ISO 11898) protocol”.

Boyes teaches that controller area network CAN, (just like ATM over VLAN using Ethernet type frame), has a simplified Ethernet frame format suited for real-time deterministic characteristics and a similar connectivity over a serial bus with CSMA/CD communication protocol and the CAN transmission frame embedded with pre-determined identifier content is compliant with the CAN ISO-11898 protocol between send and receiving node pair (See pages 1-3).

At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Boyes with the Huang et al. in order to obtain a method for transmitting Ethernet frames and to take advantage of a simplified Ethernet frame format suited for real-time deterministic

Art Unit: 2616

characteristics and a similar connectivity over a serial bus with CSMA/CD communication protocol and transmit frames embedded with pre-determined identifier content compliant with the CAN ISO-11898 protocol between send and receiving node pair.

The motivation to do so would have been to use a simplified Ethernet frame format suited for real-time deterministic characteristics and a similar connectivity over a serial bus with CSMA/CD communication protocol and transmit frames embedded with pre-determined identifier content compliant with the CAN ISO-11898 protocol between send and receiving node pair such as CAN or VLAN, as suggested by Boyes in pages 1-3.

Regarding claim 10 and 14, as discussed above, these claims have limitations that is similar to those of claims 3 and 8 and Huang et al. further teaches that providing a subscriber node (source node) that sends a registration request and assigning a private unique object identifier (VCC identifier) to the subscriber node (destination node) (See Col. 2, lines 5-25; also see Col. 9, lines 46-63), thus it is rejected with the same rationale applied against claims 3 and 8 above.

Regarding claim 9, d Huang et al. further teaches that a subscriber node sends a registration request to the central entity (Server) and the central entity (Server) allocates a private unique CAN object identifier (VCI) to the subscriber node (See Col. 4, lines 10-36).

Regarding claims 11 and 13, Huang et al. further teaches that the central entity (Server LES) uses a code for which each of a plurality of stations is continuously

Art Unit: 2616

receive-ready, transmitting control messages to at least one subscriber node (See Col. 1, line 59 to Col. 2, line 31).

Regarding claim 12, Huang et al. further teaches that a subscriber node sends a registration request to the central entity (Server LES) and the central entity (Server LES) allocates a private unique CAN object identifier (VCI) to the subscriber node (See Col. 5, lines 41-60).

Regarding claim 16-17, Huang et al. further teaches that number of the usable CAN objective identifier is in the membership tracking databases and independent from the number of nodes (See Col. 5, line 61 to Col. 6, line 12).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2616

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RL
rkc

Richard Chang
Patent Examiner
Art Unit 2616


WING CHAN
SUPERVISORY PATENT EXAMINER